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Application No. 10/ 689,637 Erich Georg Eckart, Dr. Dr.
Examiner Carl D. Price, Art Unit 3749

Mr. Price, Ladies and Gentlemen,

I would like to respond to the Office Action Summary, received on Oct 28th, 2005:

Rejections of claims 1, 2, 5, 6 under 35 U.S.C 122 , US 4,315, 497 (Vardey).

Due to the Vardey patent rejections, the claims of this application have to be altered, to prove the structural differences between the inventions:

Varney has a slightly elevated, not planar surface, a central plateau, to drain water, collected in those eight radially directed V- section grooves in the top surface of the tiles, as depicted in Fig 4.

Those grooves are inverted, not elevated and serve mainly structural purposes, and augment on the inside of the top wall the surface area available for heat exchange.

The application 10/689,637 is of structural difference to the prior art:

Only the outside of the upper surface area is enlarged, while the inner side is flat, except for structural support and built in Venturis, to reduce friction inside the tiles and to improve the overall performance:

The enlarging means on the outside are elevated, shaped preferably like hemispheres, to enlarge the energy absorbing area by almost 100 %, which cannot be achieved by the grooves of the Vardey patent and form a non slippery surface.

These hemispheres also provide a permanent, perfect 90 degree angle of incidence to the sun's radiation at any time and any season.

Each of those hemispheres functions like a magnifying glass, by bundling the sun rays into the water leading section.

The Varney structure is not capable of that intended use.

Another structural difference is the water chamber, or water leading section:

Varney uses a shallow pyramidal shaped water chamber, with different depths due to its shape. As known from tubular systems, different depths result in less efficiency, as the sun's radiation decreases with its depth of penetration.

The water leading section of this application is evenly deep (shallow) to avoid those cold layers, resulting from different depths, and therefore of a different structure.

Varney does not claim "bottom air insulation", but refers to those recesses as support to the bases of the columns, to accept the weight of users, walking or sitting on the tiles.

Varney cannot claim those recesses as insulation, as the outer bottom part of the tiles, the water chamber, with the most water content, is flat on the ground, hereby transferring collected energy to the ground, and cooling the heated water.

The structural difference of this application is evident: the bottom part has a complete and intended insulation, consisting of separated air chambers (sections), no part of the water leading section is in contact with the ground.

The structure of the Varney patent is not capable of performing that intended use.

D. J. Cooley
to F. A. T.